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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/611,230	07/06/2000	Dario Barberis	Q-59991	4825

7590 10/22/2002

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EXAMINER
BURCH, MELODY M

ART UNIT	PAPER NUMBER
3683	

DATE MAILED: 10/22/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/611,230	BARBERIS ET AL.	
	Examiner	Art Unit	
	Melody M. Burch	3683	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 August 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *12-22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *12-22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 13, 17-19, and 21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims are replete with 112 issues including but not limited to:

Re: claim 13. Claim 13 recites the limitation "the lead engine" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 13. The phrase "status signals" in line 2 from the bottom of the claim is indefinite. It is unclear whether the status signals of claim 13 are different or the same as those in claim 12.

Re: claim 17. Claim 17 recites the limitation "the other transmission line brake control or information signals received on one line" in lines 4-5. There is insufficient antecedent basis for this limitation in the claim.

Re: claim 21. The phrase "one or more carriages or wagons" in line 2 is indefinite. In claim 12 a "plurality" of carriages is claimed which does not include the limitation of one carriage - one of the alternatives claimed in claim 21.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 12-16 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engle et al. in view of Fujioka et al.

Re: claims 12, 14, 15, and 21. Engle et al. disclose a communication and control system in combination with a railway train which comprises at least one main engine 26 and a plurality of carriages or wagons 30 as shown in figure 1, the communication and control system comprising: first and second bi-directional transmission lines 70,82 shown in figure 3 or 128,132,130,134 shown in figure 4 and disclosed in col. 6 lines 15-25 which extend parallel to and spaced from one another along the train; a main control 68,74,88 installed on the main engine and connected, in the main engine, to both the transmission lines and to brake control systems or devices 76,96 of the train as shown in figure 3; a plurality of slave control units 84,86 each of which is installed upon a respective carriage or wagon and is connected, in the respective carriage or wagon, to both the transmission lines via element 74, two valve units included within element 90 associated with pneumatic brake actuators as disclosed in col. 5 lines 39-52, two sensor devices 72,84 associated with the carriage or wagon; the main control unit and the slave control units being arranged to communicate with one another via the

transmission lines according to a predetermined serial protocol as disclosed in col. 6 lines 15-25; the main control unit being arranged to transmit the slave control units brake control signals of serial type, and to receive and acquire information or state signals likewise or serial type from the slave control units via at least one of the transmission lines, but does not specifically disclose that the electrically operated valve units are solenoid valve units associated with the brake actuators.

Fujioka et al. teach the well-known use of solenoid valve units associated with brake actuators in col. 9 lines 13-14. Solenoid valves are conventionally used in association with brake actuators for improved switching speeds and widespread availability. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have constructed the brake actuators of Engle et al. with solenoid valve units, as taught by Fujioka et al., in order to provide a means of reliably controlling brake pressure in the brake pipe.

Re: claims 13 and 16. Engle et al. teach in figure 2 the use of a lead or main engine 26 and at least one further auxiliary engine 28, the auxiliary engine 28 being also provided with the control unit 68,74 capable of acting as a slave unit and arranged to receive synchronization signals coming from the control unit of the lead engine and to transmit information or state signals to the control unit of the lead engine via at least one of the transmission lines.

5. Claims 17 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engle et al. in view of Fujioka et al. as applied to claim 12 above, and further in view of Hsien et al. Hsien et al. teach in figure 2 the use of a control system wherein

slave control units 20 disclosed in col. 2 lines 50-51 for the devices 21'-24' are arranged to acquire and transmit signals on one or the other transmission line 31,32 equally, and are moreover operable when they receive a transfer command signal to transfer to the other transmission line signals received on one line, the main control unit 10 being arranged to detect a condition in which the transmission lines 31,32 are both interrupted each between different pairs of slave control units and in such a case to send transfer command signal to at least two slave control units from among those in which there is an interruption of one of the transmission lines in such a way that all the slave control units are able to communicate with the main control units via a provisional transmission line comprising portions of both the transmission lines 31,32 and the slave control units 20 which have been sent the transfer command signal as disclosed in abstract lines 2-4 from the bottom. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the arrangement of Engle et al., as modified, to have included an arrangement, as taught by Hsien et al., in order to provide a level of redundancy in the communication system.

6. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engle et al. in view of Fujioka et al. as applied to claim 12 above, and further in view of GB-2312260. Engle et al. is silent as to how the system is powered. GB-2312260 teaches in figure 1 the use of electrical power supply devices Bat. 1 and Bat. 2 to distribute power. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the system of Engle et al., as modified, with

electrical power supply devices, as taught by GB-2312260, in order to provide a means of driving the control system.

7. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engle et al. in view of Fujioka et al. in view of GB-2312260 as applied to claim 18 above, and further in view of Hsien et al. See paragraph regarding the rejections of claims 17 and 19.

8. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Engle et al. in view of Fujioka et al. as applied to claim 12 above, and further in view of Hsien et al. and Larsen. Hsien et al. teach a control system comprising the use of lines operable to transmit electrical power and control signals simultaneously in col. 2 lines 49-53 with regards to the use of power line carrier communication technology and in col. 3 lines 51-53. Larsen teaches in col. 4 lines 62-63 the use of a travelling wave type transmission line.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the transmission lines of Engle et al., as modified, to transmit both power and control signals simultaneously, as taught by Hsien et al., in order to reduce the number of lines needed in the system.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the transmission lines of Engle et al., as modified, to be of the travelling wave type, as taught by Larsen, in order to provide an alternate means of transmitting signals from the main control unit to the slave control units.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the lines of Engle et al., as modified, to be twin

wires which is a well-known line construction, in order to provide improved structural integrity of the lines.

Double Patenting

9. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

10. Claim 12 is provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claim 1 of copending Application No. 09/804392 in view of US Patent 5835845 to Niki et al. Both the instant application and application 09/804392 claim a communication and control system for a railway train having at least one engine and a plurality of wagons or carriages including first and second bi-directional transmission lines, a main control unit, a plurality of slave control units connected to solenoid valve units, talking between lines via predetermined serial protocol, the receiving and acquiring of signals between the main control unit and the slave control units, but the instant application does not claim the specific detail of the main control unit and the slave control unit talking to one another at one working frequency on one of the lines and a different frequency on the other of the lines. Niki et

al. teach in col. 2 lines 60-65 the use of bi-directional transmission lines in which different communication channels correspond to different frequencies. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the lines of the instant application to have operated at different working frequencies, as taught by Niki et al., in order to provide a means of assisting in avoiding line communication interference. It is also noted that in In re Goodman, 29 USPQ 2d 2010 (Fed. Cir. 1993) the court held that for the purposes of obvious double patenting a later genus (broad) claim is not patentable over an earlier species (narrow) claim.

This is a provisional obviousness-type double patenting rejection.

Response to Arguments

11. Applicant's arguments filed 8/6/02 have been fully considered but they are not persuasive. Applicant argues that the prior art does not include the limitation of a plurality of slave control units, each of which being installed on a respective carriage. Examiner maintains that the heat and brake sensors 84,86 of the Engle et al. reference, which are connected in each of the cars as disclosed in col. 4 lines 58-60, are slave control units. Signals at various frequencies are generated by element 88 of the main control unit and the slave control units 84,86 include tuned devices which cause the transmission line to be shorted at a specific frequency. Therefore, units 84,86 are slave control units, as broadly claimed, since they are controlled by a particular frequency generated by the main control unit.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack Lavinder can be reached on 703-308-3421. The fax phone numbers for the organization where this application or proceeding is assigned are 703-305-7687 for regular communications and 703-305-7687 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

mmb 10/21/02
mmb
October 21, 2002

10/21/02
MATTHEW C. GRAHAM
PRIMARY EXAMINER
GROUP 310